Reviewer Instructions for the Resource Management Strategies.

Thank you for taking the time to review the Resource Management Strategies; your thoughts and effort will improve the California Water Plan Update 2013. This March, these Resource Management Strategies are being circulated primarily amongst the active participants in the Water Plan process, our standing committees and caucuses. When your feedback is incorporated, it will be re-released to the broad public.

Given the short feedback period, and our plans for additional feedback later, we ask that you focus your reviews this round. We welcome feedback with an emphasis on:

- Please do not comment on grammar or formatting; these versions will receive more editing later this year;
- Please point out opportunities for updating the RMS. If you are aware of relevant new projects, legislation, or developments, it would be great to hear about those;
- Please also point out new technologies that are relevant to an RMS;
- Please make suggestions for simplifying the recommendations;
- If you have suggestions for metrics that could measure progress for an RMS, we would like to lay the groundwork to include those in the next Progress Report and the Water Plan Update 2018.

Submit your feedback to the California Water Plan email address: cwpcom@water.ca.gov by April 15^{tht}. They'll be given to our Subject Matter Experts to incorporate into their RMS. If you have any questions, please contact Megan Fidell at mfidell@water.ca.gov.

Chapter Details — Draft

Authors or volume leads, please provide context and input to the publications staff in the space below. [Any notes to authors from the editing staff are provided within the text in gray highlighting or as comments.]	
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Table information	This chapter currently has no tables.
Glossary entries	*Type any terms/definitions here that you would like to see included in the glossary. Please ensure they are defined in the text of this chapter, too.*
Captions	*Type any captions for known photos here. Include the image's file name or description of photo.*
Recommended pull quotes	*Suggest pull quotes for this chapter here. (Pull quotes are bits of text that will be repeated in margins or elsewhere on the page, in a different font/size from the rest of the text. Typically, they should be no more than a couple of sentences and should be interesting/intriguing enough to serve as an additional entry point to pull readers in.) (Copy and paste pull quotes from the text of the chapter.)*
Column notes	*If additional information needs to appear in the margins (e.g., directional notes to readers, perhaps telling them where to find related content in other sections of Update 2013), type that information here and indicate what portion of the chapter it should accompany.*

Chapter 7. Water Transfers

Water transfers are a voluntary change in the way water is distributed among water users in response to water scarcity; for example, transfers among State Water Project (SWP) or Central Valley Project (CVP) contractors. California Water Code defines a water transfer as a temporary or long-term change in the point of diversion, place of use, or purpose of use due to a transfer, sale, lease, or exchange of water or water rights. Temporary water transfers have a duration of one year or less (Water Code §1725). Long-term water transfers have a duration of more than one year (Water Code § 1728.).

Transfers can be between water districts that are neighboring or across the state, provided there is a means to convey and/or store the water. Water transfers can be a temporary or permanent sale of water or a water right by the water right holder; a lease of the right to use water from the water right holder; or a sale or lease of a contractual right to water supply. Water transfers can also take the form of long-term contracts for the purpose of improving long-term supply reliability. Generally, water is made available for transfer by five major methods:

- Transferring water from reservoir storage that would otherwise have been carried over to the following year. The expectation is that the reservoir will refill during subsequent wet seasons.
- Pumping groundwater (groundwater substitution) instead of using surface water delivery and transferring the surface water rights.
- Transferring previously banked groundwater either by directly pumping and transferring the banked groundwater or by pumping the banked groundwater for local use and transferring surface water that would have been use locally[i].
- Reducing the existing consumptive use of water through crop idling or crop shifting to make water available.
- Reducing return flows or seepage from conveyance systems that would otherwise be irrecoverable to make water available. Water is considered irrecoverable if it is discharged to a saline sink and can no longer be put to beneficial use or reuse.

Water exchanges are typically water delivered by one water user to another water user; the receiving water user will return the water at a specified time or when the conditions of the parties' agreement are met. Water exchanges can be strictly a return of water on a basis agreed upon by the participants or can include payment and the return of water. The water returned may or may not be an "even" exchange. Water can be returned on a one for one basis or other arrangement, e.g., for each acre-foot of water received, two acre-feet (AF) are returned.

Water transfers are sometimes seen as merely moving water from one beneficial use to another. However, in practice many water transfers become a form of flexible system reoperation linked to many other water management strategies including surface water and groundwater storage, conjunctive management, conveyance efficiency, water use efficiency, water quality improvements, and planned crop shifting or crop idling for the specific purpose of transferring water. These linkages often result in increased beneficial use and reuse of water overall and are among the most valuable aspects of water transfers. Transfers also provide a flexible approach to distributing available supplies for environmental purposes.

Water Transfers in California

For a comprehensive history of water transfers in California, see the California Water Plan Update 2005 (DWR, 2005). Anecdotal evidence suggests that the percentage of agricultural buyers is increasing. Permanent crop, e.g., almond plantings, has increased in various regions in California. During water shortages, growers of permanent crops are often brought into the water market to keep these crops alive, often resulting in a loss of production. Much of the water being purchased by agricultural buyers is transferred to the Westside of the San Joaquin Valley. This region has seen a proportionally large increase in permanent high-value crop production, but is susceptible to water shortages due to having lower priority of Central Valley Project (CVP) contracts. Having lower priority for contract water means this region is typically the first and most severely impacted by water shortages.

Each year hundreds of water transfers occur in California. The majority of these transfers are between agricultural water users in the same hydrologic basin and do not require review by other government agencies, as there is no change to the permit provisions for place of use, manner of use, or point of diversion. These transfers are governed by the water rights held by the water district and are a matter of internal allocation adjustments by water district members.

During 2005 and 2006, California experienced a relatively wet period and water users had the opportunity to store some excess water in groundwater banks for future withdrawal. Many of these reserves were tapped in 2007 because of dry hydrology. In 2008 continuing dry conditions prompted the purchase of approximately 230,000 AF of water from northern California agriculture. Governor Schwarzenegger declared drought in 2009 and tasked the Department of Water Resources (DWR) to establish the 2009 Drought Water Bank (Water Bank) to purchase water from willing sellers to sell at cost to willing buyers. The amount of water requested for purchase from the Water Bank exceeded the approximately 80,000 AF purchased for the buyers of the Water Bank. Several factors came to play in 2009 that limited the availability of Water Bank supplies. These included high price, and the restrictions placed on the coordinated operations of the State Water Project (SWP) and the Central Valley Project (CVP). Under favorable rice prices, rice growers are less likely to idle land for the purpose of transferring water, unless water prices either meet or exceed the current commodity's price. However, due to operational constraints losses, about half of the water made available by the idling of rice land could not be delivered to buyers increasing the cost to buyers beyond what they could or were willing to pay. In addition to the water that was transferred through the Water Bank, about 177,000 acre-feet were purchased by DWR from long-term water transfer programs already in place before the 2009 Water Bank, including the Yuba Accord. An additional 23,100 acre-feet were transferred with DWR providing conveyance only and nearly 400,000 were re-allocated within the CVP.

Operations restrictions, imposed by biological opinions, have affected the Water Bank's ability to purchase water (NMFS 2009a, 2009b; USFWS 2008, 2009a, 2009b). The Biological Opinions for the OCAP have imposed restrictions on the export of Projects water at certain times of the year. Pumping restrictions have essentially limited pumping transfer water from the Delta to July through September. The result is that more export of Project supplies has been shifted to the summer months, with the consequences that in years when project allocations are high (greater than 60 percent of the Table A supplies), there is very limited to no capacity to convey water made available for transfer from upstream of the Delta for downstream. The net result of the Biological Opinions is to add additional uncertainty to water transfer transactions. As such, there is no guarantee that properly developed water transfer

agreements can be executed and the transfer completed due to this uncertainty.

The resulting pumping restrictions have significantly impacted the opportunities for cropland idling and shifting types of water transfers. Transfer water from crop idling and crop substitution becomes available beginning in May. In some situations, particularly for Sacramento River diverters, required environmental releases make it impossible to hold transfer water in Shasta reservoir for future delivery. This caused about 40 percent of the water made available for transfer to not be deliverable to the buyer. This circumstance causes the price of the transfer water from cropland idling and shifting to about double. The water becomes so expensive, and so much cannot be transferred due to the operational constraints, that buyers are not willing to purchase the transfer water from crop idling or shifting from those diverters. Certain Feather River diverters are, however, able to store water from rice idling made available in May and June in Oroville Reservoir, or the associated Thermalito complex, which can then be transferred during the July through September transfer period. .

The Environmental Water Account (EWA) was established by the California Bay-Delta Authority (CALFED) Record of Decision (CALFED, 2000) signed in August 2000. The EWA provided for enhancing environmental conditions for at risk fish species, above and beyond regulatory requirements through curtailiment of pumping or reservoir releases at SWP and CVP facilities with no net water cost to water users downstream of the Sacramento-San Joaquin Delta (the Delta). Project water supplies forgone as a result of re-operations are made up from EWA assets. In the true sense of water transfers, the EWA is not a water transfer program since water transfers were only a portion of the EWA assets. From 2001 to 2006, EWA operational assets averaged 82,000 AF, with a range of 0 to 150,000 AF in a given year. The EWA negotiated an average of 60,000 AF per year of Component 1 water in the Yuba Accord (YCWA, 2009). The Yuba Accord agreement runs to 2015 with a possible extension to 2025. According to provisions of the Accord, Component 1 water is only provided when the Delta is in balanced conditions. In rare instances which occurred in 2006 and again 2011, the Delta was in excess conditions throughout the summer period and into the fall and the Component 1 water was carried over to a subsequent year when it could be made available and delivered to end users. In the foreseeable future, the Component 1 water made available will be used to offset SWP water lost from the recent Delta biological opinions.

Oversight of Water Transfers in California

Transfers that involve changes in point of diversion, place of use, or purpose of use to a water right due to a transfer most often require the approval of the State Water Resources Control Board (State Water Board). Transfers that require the use of State, regional, or a local public agency's conveyance facilities require the owner thereof to determine that the transfers will not harm any other legal user of water, will not unreasonably affect fish and wildlife, and will not unreasonably affect the overall economy of the county from which the water is transferred (Water Code §1810(d)). Strictly speaking, economic issues are typically only required to be evaluated in water transfers that seek to utilize DWR's water conveyance facilities or those of other State or local agencies. However, economic impacts that are associated with physical changes to the environment may require analysis under the California Environmental Quality Act (CEQA).

California Water Code specifies the requirements for changes in water rights permits subject to the oversight of the State Water Resources Control Board (SWRCB) (post-1914 appropriated water), (Water

Code §§ 1702, 1727, and 1736) and for water rights not subject to the SWRCB (pre-1914) (Water Code §1706). In addition, the Water Code also specifies that DWR and other regional and local agencies must allow use of any unused conveyance capacity to a bona fide transferor of water (Water. Code § 1810 et seq.) .

In order to assist water projects that may require the use of Project Facilities to complete the transfer, DWR and the US Bureau of Reclamation (Project Agencies) have developed a draft technical information document. This document provides transferors details that will assist them in developing the technical information that the Project Agencies will need to make their determinations under the Water Code. This document is revised as needed and posted on DWR's website (DWR2012).

As of the preparation of this update, the Delta Plan is being prepared pursuant to the Delta Reform Act and is in Public Review draft form. As currently drafted, the Delta Plan would contain enforceable regulatory policies that apply to certain proposed plans, programs, and projects by public agencies which have been classified as "covered actions" in addition to a multiplicity of non-regulatory "recommendations". Public agencies that propose to undertake covered actions would be required to certify before the Delta Stewardship Council that the action is consistent with the Delta Plan.

As the water transfer market has matured, the buyers and Northern California sellers have begun to develop mechanisms to better respond to concerns over potential transfer effects on local water users and the environment. Water transfer proposals are generally designed to avoid harm issues in order to comply with Water Code requirements. To further insure that sustainable transfers are being developed, continued research and study of Northern California aquifers is necessary to better understand how those aquifers can safely supply water during times of drought. The studies must be a joint effort of State, federal, and local government as well as other interested parties.

Local leadership and initiative are also needed to implement water transfers. Water transfers are typically proposed by local water agencies and can benefit from local community involvement in the development of these proposals. Some counties have passed local ordinances to regulate groundwater extraction for water transfer purposes. With adequate public notice, disclosure of proposals and meaningful public participation, local communities can best assess their area's water demands and supplies and determine if there is potential for transferring water outside of the local region.

Potential Benefits of Water Transfers

For receiving areas, water transfers have the potential to improve economic stability and environmental conditions that would otherwise deteriorate with water scarcity. Sellers can use the compensation from transfers to fund beneficial activities, although there is no guarantee that benefits to the seller will benefit the source area as a whole. Compensation from most transfers involving agricultural water goes directly to the participating landowner, who may choose to reinvest into the farming business. In some cases, compensation goes to water districts, which can use the income to reduce water rates, improve facilities, or improve environmental conditions. For example, Western Canal Water District used proceeds from drought water bank sales to remove diversion dams and reconfigure its canals to reduce impacts on threatened spring-run salmon. Transfers by regional water agencies can provide additional resources to benefit the entire community. For example, the Yuba County Water Agency has used over $10 million from the proceeds of water transfers over the past several years to fund needed flood control projects.

Potential Costs of Water Transfers

The direct costs of completing a water transfer include more than just the price of water to the seller. Additional direct costs to the buyer include conveyance, storage, and treatment costs. Sale prices reflect the cost to make the water physically available for transfer and, in some cases, added monitoring or mitigation needed to protect the environment or other legal water users. The buyer typically arranges for transferred water to be conveyed to their area of use. Conveyance costs can be significant, and there are conveyance losses that lessen the amount of water actually delivered to the receiving area. In addition, there are also administrative costs of the conveyance agency in developing conveyance contracts including staff time for assuring compliance with statutory provisions regarding third party impacts.Major Issues Facing Water Transfers

Balanced Approach to Regulating Transfers

There is a concern by some that State laws and oversight of water transfers are not adequate to protect the environment, third parties, public trust resources, and broader social interests that may be affected by water transfers. This is particularly the concern for water transfers involving pre-1914 water rights, which are not subject to regulation by State Water Board. Conversely, there is also concern that efforts to more heavily regulate water transfers may unnecessarily restrict many short-term, intra-regional transfers that have multiple benefits during temporary supply shortages and that have little likelihood of direct or indirect impacts. The key issue is how to balance these concerns to allow water transfers to continue as a viable water management strategy while having mechanisms to minimize effects on others.

There has been criticism with regards to the burdens of regulatory requirements for completing water transfer agreements. Much of the information requested by Project Agencies from water transfer proponent is aimed at determining that the water that is being transferred is “a real water supply” (i.e., additional water made available to the hydrologic system for transfer by the supplier) and not someone else’s water. Some would also contend that the present system presents an adequate level of protection. For example, water transfers involving pre-1914 water rights while not subject to the review of the SWRCB, will require CEQA compliance if the one of the parties is a public agency, or will require the conveyance of a public agency to complete the transfer. Additionally, any project that require the use of a public agency’s conveyance will require that the agency who is owner of the conveyance to make certain determinations pursuant to Water Code 1810(d) (no injury to other water users and no unreasonable impact to wildlife and the economy of the county from which the transfer originated from).

In relationship to these impacts, it should be noted that water is a resource fundamental to the physical and economic well-being of the local communities and areas in which it originates and is used. Though not readily apparent, far more water is appropriated in water rights permits for a given system than is actually available quantitatively speaking. This discrepancy is reconciled in that water is used and re-

used many time over. Impacts that may occur from various water management strategies are frequently hard to assess in that most water systems are physically complex and uncertain, and the uses in them are highly interdependent. For example, groundwater extraction, including that water used for groundwater substitution water transfers may connect with and impact surface water flow. The extent of that impact would depend on when the extraction occurs and magnitude recharge of groundwater by surface water replenishment. This could potentially impact water right holders with access to those the surface waters. At this time, the analyses of these types of impacts are complex and replete with uncertainties. Future analytical tools may help to explain these complexities and reduce system uncertainties.

Environmental Concerns

Environmental consequences of transfers could occur in three places: the area from which water is transferred, the area through which water is conveyed, and the area to which water is transferred. Cumulative effects of short- and long-term transfers could have impacts on habitat, water quality, and wildlife caused by substituting groundwater for surface water; changing the location, timing, and quantity of surface diversions; reducing agricultural return flows to wildlife areas; or changing crop patterns through crop shifting or idling. For example, rice growing areas could have significant secondary benefits as wildlife habitat. Transfers that involve crop idling in these areas could either harm or benefit wildlife depending on implementation. Transfers that involve increased groundwater pumping also raise concerns over groundwater overdraft and the long-term sustainability of groundwater resources. In addition, long-term water transfers that induce new urban development in the receiving area may have environmental impacts.

Using Limited Duration Transfers for Long-term Demands

There is a concern that transfers of limited duration are being used for long-term demands. Because these transfers rely in part on public funding that may not exist every year, they may not provide long-term protection for the environment. There is also a concern that urban areas may use limited duration transfers to accommodate additional development with water supplies that are not sustainable. Finally, there is a concern that agricultural users may rely on limited duration transfers to supply crops, such as orchards, that cannot be easily scaled back during droughts.

Economic Concerns

Short-term, out-of-county transfers created through extensive crop idling can reduce production and employment of both on-farm and secondary economic sectors resulting in reduced tax revenues and increased costs for farmers who are not participating in the transfer. Extensive idling of crops that result in unemployment of low wage laborers could be considered unfair treatment under the State's environmental justice policies (Gov. Code § 65040.12). In addition, reduced revenues could affect local governments disproportionately with potential impacts to spending on a wide range of services provided by local government. Long-term transfers could result in similar impacts even though the amount of fallowed land may be less. For long-term transfers, impacts to other elements of the local community (schools, businesses, etc.) may be more widespread and severe. Transfers of surface water that are replaced by increasing groundwater pumping may drop groundwater levels and increase the pumping costs to other groundwater users, and may contribute to groundwater overdraft.

State law generally requires that water transfers not unreasonably affect the overall economy of the county from which the water is transferred (referred to as source areas). However, there is potential for

some economic disruption to source areas depending on the source of transferred water, the amount of water transferred, and the duration of the transfer. The Water Code provides for limiting the economic impacts to local communities by limiting the amount of water that can be provided by cropland idling by a water supplier to 20 percent of the water that would have been applied or stored [Water Code §1745.05(b)], unless a hearing is conducted. While groundwater substitution still allows for a crop tobe produced, cropland idling does not produce a crop, which may cause economic impacts to third parties. While there is no evidence that recent water transfers have had long-term negative economic impacts to source areas, there is a concern that source areas could experience long-term economic impacts if transfers become more widespread. Water scarcity can also cause economic impacts, both where the shortage occurs and far beyond. Water transfers can help reduce water scarcity in areas receiving transfers, thereby helping to avoid job losses and secondary economic impacts in these areas.

Quantifying Uncertainties and Effects on Others

Transfers, especially those where water is moved long distances, are limited by several factors, including access to and physical capacity of conveyance systems, environmental and water quality regulations, evaporation, evapotranspiration, and seepage along the flow path, linkages between surface water and groundwater movement and use, and other factors difficult to quantify or anticipate. For example, those who traditionally relied on return flows from upstream areas as a source of supply are concerned about being affected by changes in timing and quantity of flows resulting from water transfers or water conservation measures. Quantifying the actual water savings from crop shifting and crop idling is particularly difficult because only the consumptive use by the crop is transferable in most cases. There is a risk that estimates of the water supply benefits from the transfer to the water system (estimates of “real water”) will be inaccurate and that the transfers have unintended consequences to other water users, local economies, or the environment. A key challenge is to improve methods for quantifying these uncertainties and to include adequate monitoring and assurances when implementing water transfers. Monitoring is particularly critical for transfers that obtain water from crop idling, crop shifting, water use efficiency measures, or by increasing groundwater use. Information may be needed on historical and current land use and water use, groundwater levels, land subsidence, water quality, environmental conditions, and surface water flows.

Need for More Integrated Management of Water Resources

In California, authority is often separated among local, State and federal agencies for managing different aspects of groundwater and surface water resources. Several examples highlight this: 1) The State Water Board has jurisdiction for appropriative water rights dating from 1914, but disputes over appropriative water rights dating before 1914 are settled by the court system; 2) Similarly, the State Water Board has jurisdiction over groundwater quality, but disputes over groundwater use are settled by the court system; 3) County groundwater ordinances and local agency groundwater management plans often only apply to a portion of the groundwater basin, and those with overlapping boundaries of responsibility do not necessarily have consistent management objectives. Failure to integrate water management across jurisdictions makes it difficult to develop transfers with multiple benefits, provide for sustainable use of resources, identify and protect or mitigate potential impacts to third parties, and ensure protection of the legal rights of water users, the environment, and public trust resources.

Infrastructure and Operational Limits

The ability to optimize the benefits of water transfers depends on access to and the physical capacity of

existing conveyance and storage facilities. For example, when export facilities in the Delta are already pumping at full capacity, transferable water cannot be moved. This occurred in 2003 when the Metropolitan Water District of Southern California (MWD) negotiated water transfers with growers in the Sacramento Valley but was unable to move water through the Delta where the conveyance system was flowing full, or to store the water in Lake Oroville, which filled with late spring rain. As noted previously, the implementation of the Biological Opinions for the OCAP has also limited the period when water can be transferred across the Delta. This has impacted water Project operations such that the exporting of Project water has now shifted to the water transfer period, which reduces available capacity for transfers.

The ability to convey water is also an important aspect of water transfers between the Imperial Irrigation District and the San Diego County Water Authority, which requires access to the Colorado River Aqueduct owned and operated by MWD.

Climate Change

Mitigation

Adaptation

Recommendations for Water Transfers

1. Since local government and water agencies have the lead role in developing and implementing water transfers, they should:
   A. Develop groundwater management plans to guide implementation of water transfers that increase groundwater use or that could impact groundwater quality.
   B. Implement monitoring programs that evaluate potential specific and cumulative impacts from transfers, provide assurances that unavoidable impacts are mitigated reasonably, and demonstrate that transfers comply with existing law.
   C. Evaluate and implement regional water management strategies to improve regional water supplies to meet municipal, agricultural, and environmental water demands and minimize the need to import water from other hydrologic regions.
   D. Provide for community participation when identifying and responding to conflicts caused by transfers to which they are a party.
2. State and federal agencies, in addition to implementing State and federal law, should assist with resolving potential conflicts over water transfers when local government and water agencies are unable to do so and when there are overriding State or federal concerns.
3. State and federal agencies continue to gain consensus on how best to implement water transfers. The following actions are on-going and should be continued and improved:
   A. Preparing programmatic and site-specific CEQA/NEPA documents and other technical assistance for inter-regional transfers.
   B. The State Water Board, DWR, and the California Department of Fish and Game (DFG) must consider whether the transfer is likely to harm public trust resources, such as fish and wildlife, and must protect trust resources whenever feasible. The State Water Board and DWR, after considering all available information, including CEQA documents or other environmental documents and the input of DFG, may put conditions on transfers to protect

trust resources. If the State Water Board or DWR find that a proposed transfer will cause undue harm to trust resources, they may 1) add terms to avoid the harm, 2) the State Water Board may deny the petition, or 3) DWR may deny the use of its facilities. In many cases, transfers will not result in harm to public trust resources.

C. DFG should exercise its responsibilities as trustee for the resources of the State with jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Fish & G. Code § 1802.).
D. Improving conditions in the Delta and identifying and reducing statewide conveyance limitations.
E. Streamlining the approval process of State and federal agencies for water transfers where approvals are required, while protecting water rights, the environment, and local economic interests.
F. Working with agencies proposing water transfers that move water through the Delta to monitor and evaluate short-term, long-term, and cumulative effects that could impact the condition of the Bay-Delta ecosystem. This is being accomplished through the Bay Delta Conservation Plan (CNRA, 2009).
G. Refining current methods on how to identify and quantify water savings for transfers using crop idling, crop shifting, and water use efficiency measures. This is being accomplished through a collaborative process that considers methods developed by others.
H. Developing, with interested parties, acceptable ways to identify, lessen, and distribute economic impacts from transfers that use crop idling and crop shifting.
I. Providing financial assistance for local and regional groundwater management activities that promote sustainable and coordinated use of surface water and groundwater. This is being accomplished through the Sacramento Valley Water Management Program (DWR, 2009c).
J. Seeking consensus among interested parties about the role of water transfers as a water management strategy while identifying and preventing or mitigating potential impacts to other water users, third parties, the environment, and public trust resources.
K. Improving coordination and cooperation among local, State, and federal agencies with different responsibilities for surface water and groundwater management to facilitate sustainable transfers with multiple benefits, allow efficient use of agency resources, and promote easy access to information by the public.
L. Developing water transfer policies that balance the ability of agriculture to provide water for transfers on a limited periodic basis to help with temporary water scarcity so that transfers do not destabilize agricultural productivity and economic benefits.
M. Facilitating cooperation among agencies proposing water transfers and regulatory agencies to obtain multiple benefits from proposals. For example, transfers intended for urban or agricultural use may also be scheduled to enhance flows for aquatic species in areas between the seller and buyer.
N. Implementing water transfers consistent with State water and environmental laws and at a fair price when a State or federal agency is serving as a purchaser in cooperation with local partners.

Water Transfers in the Water Plan

[Authors, this is a new heading for Update 2013. If necessary, this section will discuss the ways the

resource management strategy is treated in this chapter, in the regional reports and in the sustainability indicators. If the three mentions aren't consistent, the reason for the conflict will be discussed (i.e., the regional reports are emphasizing a different aspect of the strategy). If the three mentions are consistent with each other (or if the strategy isn't discussed in the rest of Update 2013), there is no need for this section to appear.]

References

[Authors, for Update 2013, the "References" section will have the following subheadings: "References Cited" (for references that have in-text citations), "Additional References" (for additional materials that either the author consulted but did not cite or that readers may appreciate generally), and "Personal Communications" (for personal communications that you have documented using the form for that purpose; if you have not documented such communications, just use attribution in the narrative and do not include an entry in the bibliography). For now, the references provided for Update 2009 have been placed under the "References Cited" subhead. If they are no longer cited in the text after the text has been updated for 2013, place them under the "Additional References" subheading instead or delete them altogether. In general, legal references (statutes, codes, acts, etc.) do not need to be included within this section and can instead be described within the narrative above. Additional guidance on references and citations is contained within California Water Plan Update 2013: Publications Process and Style Guide, *available from volume leads.]*

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Additional References

Teresa Geimer, PE, Principal engineer at the Department of Water Resources. Ms. Geimer was consulted on the 2009 Drought Water Bank and the Environmental Water Account.

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Citations

[i] Groundwater banks consist of water that is "banked" during wet or above average years. The water to be banked is provided by the entity that will receive the water in times of need. Although transfers or exchanges may be needed to get the water to the bank and from the bank to the water user, groundwater banks are not transfers in the typical sense. The water user stores water for future use; this is not a sale or lease of water rights. It is typical for fees to apply to the use of groundwater banks.